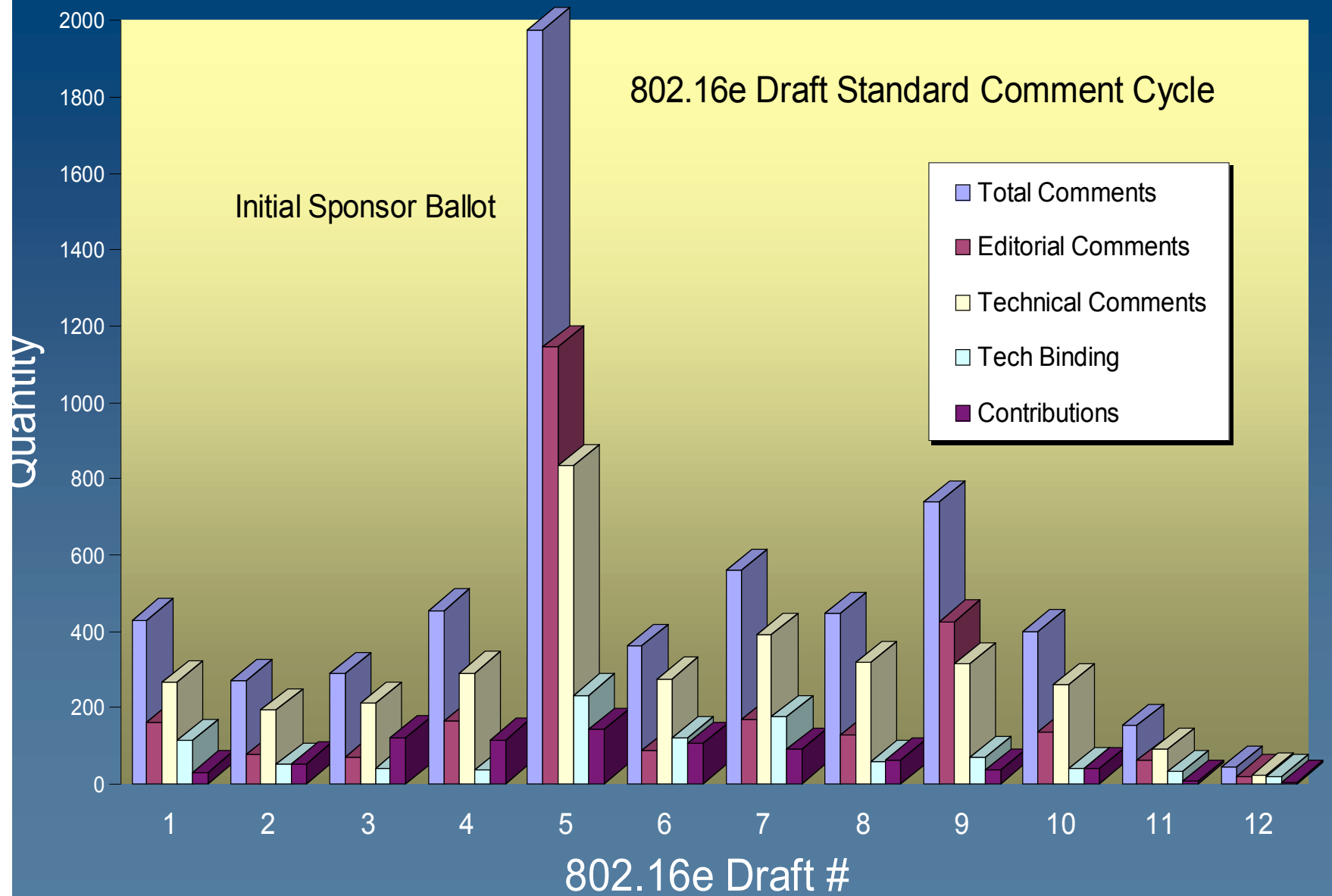# *The Sordid Saga of Sixteen - e*

The Sordid Saga of 802.16e

- *Born In Controversy;* *802.16e vs. 802.20*
- *Started before the 802.16a ink was dry*
  - Approved – Dec 2002
  - 1st Call for Contributions – Dec 2002
  - First Meeting – January 2003
- *Originally scoped as a limited mobility adjunct to fixed operation*
  - Existing 802.16a PHYs (modified as needed)
  - MAC enhancements to support Handover
  - Backwards Compatibility with 802.16a fixed
- *Plagued by Discontent:*
  - Revised PAR in mid-2003 to add new PHY modes
  - 802.20 Protest to IEEE SA
- *Grew to Become a Full Cellular Approach*

The Sordid Saga of 802.16e

- *Three Years; Dec 2002 – Dec 2005*
- *Sixteen full Meetings plus many Ad Hocs*
- *Typically 200 – 300 people per meeting*
- *Nearly 1000 Contributions plus Hundreds of Revised Contributions*
- *Twelve official drafts*
  - Over 6000 comments
  - 810 Contributions
  - Finally - 684 Pages
- *Final Sponsor Recirc: D12*
  - No Comments
  - 138 Approve (98.6%)
  - 2 Disapprove
  - 10 Abstain

The Sordid Saga of 802.16e

802.16e Draft Standard Comment Cycle

Initial Sponsor Ballot

Quantity

802.16e Draft #

Legend:
- Total Comments
- Editorial Comments
- Technical Comments
- Tech Binding
- Contributions

What 802.16e Added

- *PHY*
  - Kept the Fixed PHYs but added "Scalable OFDMA"
    - 128, 512, and 1024 FFT
  - Expanded MIMO Support
- *MAC*
  - Hybrid ARQ
  - Handover Support
    - Make-Before-Break
    - Macro-Diversity Handover
  - Sleep Mode
  - Idle Mode (Paging)
  - Scanning for neighbors
  - Advertisement of neighborhood
  - Efficient network re-entry process
- *Extensive Security Enhancements*

The Sordid Saga of 802.16e

- *It's Not Quite Over Yet!!*
  - REVCOM – 6 December
  - IEEE SA – 7 December
  - Published – A Christmas Present (?)
- *Still NO Profiles!!!*
- *Make it Work (see Profiles)*
- *Sell It*